



SEQUENCE LISTING

Sub B1
C1
<110> Schnable, Patrick S.
Liu, Feng
Fu, Yan

<120> NUCLEIC ACID MOLECULES ENCODING MULTIPLE
START CODONS AND HISTIDINE TAGS

<130> 08411-027001

<140> US 09/897,776

<141> 2001-06-29

<150> US 09/732,990

<151> 2000-12-08

<150> US 60/169,725

<151> 1999-12-08

<160> 37

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 93

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<221> CDS

<222> (1)...(84)

<221> CDS

<222> (88)...(93)

<400> 1

aag ctt cac cac cat cat cat cac gca tca cca cca cca cca cgc atc 48
Lys Leu His His His His His His Ala Ser Pro Pro Pro Pro Arg Ile
1 5 10 15

atc atc acc atc acc tcg agc gtc aca cta gct gag taa gca tgc 93
Ile Ile Thr Ile Thr Ser Ser Val Thr Leu Ala Glu Ala Cys
20 25 30

<210> 2

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 2

gtaccaccca ccatcatcat cagcatcac caccaccacc acgcatcatc atcaccatca cctcga	60 66
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<p><220> <223> linker</p>	
<p><400> 3 ctgcagcggc cgcg</p>	14
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<p><400> 4 ctaggcgcgc ggcacgtctc ga</p>	22
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<p><400> 5 ctagctgcag atatca</p>	16
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<p><220> <223> linker</p>	
<p><400> 6 agcttgatat ctgcag</p>	16
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<210> 8
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<212> DNA
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<220>
<223> primer for PCR

<400> 8
acgagctcag gcagagacga 20

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> primer for PCR

<400> 9
acgagctcgc agagacgacg 20

<210> 10
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> primer for PCR

<400> 10
cctcgagtca cacaggaaac agctaa 26

<210> 11
<211> 24
<212> DNA
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<220>
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<400> 11
ggctagcagc tgtttcctgt gtga 24

<210> 12
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<212> DNA
<213> Artificial Sequence

<220>
<223> primer for PCR

<400> 12
gtggagcatc tggtcgca 18

<210> 13

<211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer for PCR

<400> 13
 gagatctgcc ataacatgtc atcatagctg tttcctg 37

<210> 14
 <211> 35
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> linker

<400> 14
 ctagccgaaa ttaatacgac tcactatagg gagac 35

<210> 15
 <211> 66
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 15
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 accacc 66

<210> 16
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<220>
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<400> 16
 gacgtcgcat gcttactcag ctagtgtgat ggtgatgatg atggcctatg gtggtggtgg 60
 tgatgcg 67

<210> 17
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<220>
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<400> 17
 taatacgact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttaac 60
 tttagaagg agatatacat atggcatggc atggcca 97

<210> 18
 <211> 13
 <212> DNA
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<220>
 <223> Synthetically generated oligonucleotide

<400> 18
 atggcatggc atg 13

<210> 19
 <211> 35
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> linker

<400> 19
 aattgtctcc ctatagtgag tcgtattaat ttcgg 35

<210> 20
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 20
 Lys Leu His His His His His Ala Ser Pro Pro Pro Pro Arg Ile
 1 5 10 15
 Ile Ile Thr Ile Thr Ser Ser Val Thr Leu Ala Glu
 20 25

<210> 21
 <211> 93
 <212> DNA
 <213> Artificial Sequence

<220>
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<221> CDS
 <222> (2)...(76)

<221> CDS
 <222> (80)...(91)

<400> 21
 a agc ttc acc acc atc atc atc acg cat cac cac cac cac cac gca tca 49
 Ser Phe Thr Thr Ile Ile Ile Thr His His His His His His Ala Ser
 1 5 10 15

tca tca cca tca cct cga gcg tca cac tag ctg agt aag cat 91
 Ser Ser Pro Ser Pro Arg Ala Ser His Leu Ser Lys His

20

25

gc

93

<210> 22
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 22
 Ser Phe Thr Thr Ile Ile Ile Thr His His His His His His Ala Ser
 1 5 10 15
 Ser Ser Pro Ser Pro Arg Ala Ser His
 20 25

<210> 23
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 23
 Leu Ser Lys His
 1

<210> 24
 <211> 93
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<220>
 <223> Synthetically generated oligonucleotide

<221> CDS
 <222> (3)...(80)

<221> CDS
 <222> (84)...(92)

<400> 24
 aa gct tca cca cca tca tca tca cgc atc acc acc acc acc acg cat
 Ala Ser Pro Pro Ser Ser Ser Arg Ile Thr Thr Thr Thr Thr His
 1 5 10 15

cat cat cac cat cac ctc gag cgt cac act agc tga gta agc atg
 His His His His His Leu Glu Arg His Thr Ser Val Ser Met
 20 25

c

93

<210> 25
 <211> 26

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 25
 Ala Ser Pro Pro Ser Ser Ser Arg Ile Thr Thr Thr Thr Thr His His
 1 5 10 15
 His His His His Leu Glu Arg His Thr Ser
 20 25

<210> 26
 <211> 93
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 26
 gcatgcttac tcagctagtg tgacgctcga ggtgatgggtg atgatgatgc gtgggtgggtgg 60
 tggatgatgc tgatgatgat ggtggtgaag ctt 93

<210> 27
 <211> 118
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<221> CDS
 <222> (1)...(99)

<221> CDS
 <222> (103)...(117)

<400> 27
 tat aca tat ggc atg gca tgg cca ctg cag gat cca cca cca tca tca 48
 Tyr Thr Tyr Gly Met Ala Trp Pro Leu Gln Asp Pro Pro Pro Ser Ser
 1 5 10 15

tca cgc atc acc acc acc acc ata ggc cat cat cat cac cat cac act 96
 Ser Arg Ile Thr Thr Thr Thr Ile Gly His His His His His His Thr
 20 25 30

agc tga gta agc atg cga cgt c 118
 Ser Val Ser Met Arg Arg
 35

<210> 28
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 28

```
Tyr Thr Tyr Gly Met Ala Trp Pro Leu Gln Asp Pro Pro Pro Ser Ser
 1           5           10           15
Ser Arg Ile Thr Thr Thr Ile Gly His His His His His His Thr
          20          25          30
```

Ser

<210> 29

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 29

```
Val Ser Met Arg Arg
 1           5
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<210> 30

<211> 118

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<221> CDS

<222> (2)...(70)

<221> CDS

<222> (74)...(103)

<221> CDS

<222> (107)...(118)

<400> 30

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t ata cat atg gca tgg cat ggc cac tgc agg atc cac cac cat cat cat      49
  Ile His Met Ala Trp His Gly His Cys Arg Ile His His His His His
    1           5           10           15
```

```
cac gca tca cca cca cca cca tag gcc atc atc atc acc atc aca cta      97
His Ala Ser Pro Pro Pro Pro   Ala Ile Ile Ile Thr Ile Thr Leu
          20          25          30
```

```
gct gag taa gca tgc gac gtc      118
Ala Glu   Ala Cys Asp Val
          35
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<210> 31

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 31

Ile His Met Ala Trp His Gly His Cys Arg Ile His His His His His
 1 5 10 15
 His Ala Ser Pro Pro Pro
 20

<210> 32

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 32

Ala Ile Ile Ile Thr Ile Thr Leu Ala Glu
 1 5 10

<210> 33

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 33

Ala Cys Asp Val

<210> 34

<211> 118

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<221> CDS

<222> (3)...(95)

<221> CDS

<222> (99)...(116)

<400> 34

ta tac ata tgg cat ggc atg gcc act gca gga tcc acc acc atc atc 47
 Tyr Ile Trp His Gly Met Ala Thr Ala Gly Ser Thr Thr Ile Ile
 1 5 10 15

atc acg cat cac cac cac cat agg cca tca tca tca cca tca cac 95
 Ile Thr His His His His His Arg Pro Ser Ser Ser Pro Ser His
 20 25 30

tag ctg agt aag cat gcg acg tc 118
 Leu Ser Lys His Ala Thr
 35

Ala
 con